Claims

WHAT IS CLAIMED IS:

Start 1. A plastic double-walled structural panel suitable for a vehicle, comprising:

an outer panel comprised of plastic and having a top portion, first and second longitudinal ends, an outer appearance surface, an inner surface, and one or more outer attachment points;

an inner panel comprised of plastic and having a top portion, first and second longitudinal ends, an inner appearance surface, and one or more inner attachment points corresponding to an outer attachment point;

a support structure comprised of plastic that is positioned between the inner and outer panel; and

at least one connector for connecting one or more inner attachment points and one or more outer attachment points.

2. A structural panel as recited in claim 1, wherein the support structure is formed integrally with the inner panel or the outer panel.

3. A structural panel as recited in claim 2, wherein the support structure extends longitudinally substantially from the first longitudinal end to the second longitudinal end of the inner panel.

4. A structural panel as recited in claim 1, wherein the support structure includes integral inner supports.

5. A structural panel as recited in claim 4, wherein the inner supports extend forward from the appearance surface of the inner panel and form a plurality of compartments.

6. A structural panel as recited in claim 1, including a hardware bracket connected to the inner panel at a hardware attachment point.

7. A structural panel as recited in claim 6, wherein the hardware bracket is L-shaped or K-shaped and is connected to the inner panel.

8. A structural panel as recited in claim 1, wherein the connectors are integrally formed at the inner attachment point of the inner panel or at the outer attachment point of the outer panel and such connectors mate with corresponding features in the opposing panel.

9. A structural panel as recited in claim 8, wherein the corresponding features in the opposing panel includes apertures, slots, grooves, hooks, or flanges.

10. A structural panel as recited in claim 1, wherein the connectors include bolts, screws, clips, or pins for connecting the inner panel and the outer panel.

11. A structural panel as recited in claim 1, including hardware connected to the inner panel.

12. A structural panel as recited in claim 11, wherein the hardware includes hinges, latches, locks, straps, cables, wires, clips, hooks, or lighting equipment.

13. A structural panel as recited in claim 1, wherein the outer panel is injection molded, blow molded, vacuum formed, or compression molded.

14. A structural panel as recited in claim 1, wherein the inner panel is injection molded, compression molded, blow molded, extrusion molded, or thermoformed.

15. A structural panel as recited in claim 1, wherein the outer appearance surface of the outer panel or the inner appearance surface of the inner panel is comprised of high-impact and corrosion-resistant thermoplastic.

16. A structural panel as recited in claim 1, wherein, when assembled, the top portion of the inner panel covers the top portion of the outer panel.

17. A structural panel as recited in claim 1, wherein, when assembled, the outer panel is positioned over the top portion of the inner panel.

18. A structural panel as recited in claim 1, wherein the inner panel and the outer panel are hinged.

19. A structural panel as recited in claim 1, wherein the inner panel and the outer panel form at least one compartment.

20. A structural panel as recited in claim 1, wherein the outer panel includes at least one window.

21. A plastic double-walled structural panel suitable for a vehicle, comprising:

an outer panel comprised of plastic and having a top portion, first and second longitudinal ends, an outer appearance surface, an inner surface, and one or more outer attachment points;

an inner panel comprised of plastic and having first and second longitudinal ends, an inner appearance surface, a support structure formed integrally with the inner panel, and inner attachment points corresponding to one or more outer attachment points of the outer panel;

a hardware bracket connected to the inner panel; and

at least one connector for connecting at least one inner attachment point of the inner panel and at least one corresponding outer attachment point of the outer panel.

22. A method for forming a plastic double-walled structural panel suitable for a vehicle, comprising:

molding a plastic outer panel having a top portion, first and second longitudinal ends, an outer appearance surface, an inner surface, and one or more outer attachment points;

molding a plastic inner panel having first and second longitudinal ends, an inner appearance surface, a support structure, and one or more inner attachment points corresponding to one or more outer attachment points of the outer panel; and

connecting one or more inner attachment points of the inner panel and one or more outer attachment points of the outer panel.

23. A method as recited in claim 22, including the step of installing hardware prior to completing the connection of the outer panel to the inner panel.

24. A method as recited in claim 22, including the step of installing equipment between the outer and inner panels prior to completing the connection of the outer panel to the inner panel.

25. A method for forming a plastic double-walled structural panel suitable for a vehicle, comprising:

molding a plastic outer panel having a top portion, first and second longitudinal ends, an outer appearance surface, an inner surface, a support structure, and one or more outer attachment points;

molding a plastic inner panel having first and second longitudinal ends, an inner appearance surface, and one or more inner attachment points corresponding to one or more outer attachment points of the outer panel; and

connecting one or more inner attachment points of the inner panel and one or more outer attachment points of the outer panel.

26. A method for forming a plastic double-walled structural panel suitable for a vehicle, comprising:

molding a plastic outer panel having a top portion, first and second longitudinal ends, an outer appearance surface, an inner surface, and one or more outer attachment points;

molding a plastic inner panel having first and second longitudinal ends, an inner appearance surface, and one or more inner attachment points corresponding to one or more outer attachment points of the outer panel;

molding a separate plastic support structure;

positioning the support structure between the inner and outer panels; and

connecting at least one inner attachment point of the inner panel and at least one outer attachment point of the outer panel.

27. A method as recited in claim 26, including the step of installing hardware prior to the complete connection of the outer panel and inner panel.

28. A method as recited in claim 26, wherein at least one article of hardware is connected to the support structure prior to the connection of the support structure to the inner panel.